

5(3)

SOV/79-29-7-11/83

AUTHORS:

Gladsteyn, B.M., Rode, V. V., Soborovskiy, L. Z.

TITLE:

Synthesis of Fluorotrialkyl Germane Compounds
(Sintez ftoristyykh trialkilgermanov)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2155-2156 (USSR)

ABSTRACT:

In the present paper the synthesis of a fluorotrialkyl germane compound was carried out by the direct action of hydrogen fluoride on the tetraalkyl germane compound:

$$\text{GeR}_4 + \text{HF} \longrightarrow \text{R}_3\text{GeF} + \text{RH}, \text{ where } \text{R} = \text{CH}_3 \text{ and } \text{C}_2\text{H}_5.$$
 This reaction takes place smoothly and produces a quantitative yield of monofluorotrialkyl germane. It is possible that this reaction may be used for the elaboration of a quantitative method of determining some tetraalkyl germanes. The replacement of an alkyl group by fluorine in tetraalkyl germane becomes distinctly manifest in the properties of the remaining Ge - C bonds. The further action of HF on fluorotrialkyl germanes, even under more rigid conditions, does not lead to a separation of other alkyl groups. In this way fluorotrialkyl germanes are obtained in pure state, without admixtures of di- and trifluoroalkyl germanes.

Card 1/2

Synthesis of Fluorotrialkyl Germane Compounds

SOV/79-29-7-11/83

For this reason the method is comfortable and preparative. The values of the increments of the atomic refractions of germanium for fluorotrimethyl- and fluorotriethyl germanes slightly vary between 8,35 and 8,28. The initial tetraalkyl germanes are obtained by organomagnesium synthesis from germanium tetrachloride and the corresponding alkyl magnesium halide, which under the present conditions (in dibutyl ether medium) led to a quantitative yield. Earlier, this ether was used for the synthesis of tetraalkyl germanes, their yield, however, was only low (Ref 5). There are 7 references, 1 of which is Soviet.

SUBMITTED: June 17, 1958

Card 2/2

SOV/79-29-8-40/81

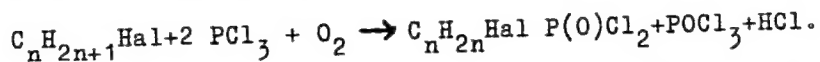
5(3)

AUTHORS: Zinov'yev, Yu. M., Soborovskiy, L. Z.

TITLE: Synthesis of Organo-phosphorus Compounds From Hydrocarbons and Their Derivatives. XII. Oxidizing Chlorophosphination of Halogenated Alkanes

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp 2643-2646 (USSR)

ABSTRACT: In the present paper, the reaction of phosphorus trichloride and oxygen with 1,1-di- and 1,1,1-trichloro-ethane, 2-chlorobutane, and 1-fluoro-2-chloro-ethane as well as with the representatives of the monofluorine, bromine and iodine derivatives of the paraffins was investigated. All these halogen alkanes, excepted the iodine derivative, are subject to the oxidizing chlorophosphination, and yield the acid chlorides of the corresponding halogenated alkane-phosphinic acids:



Card 1/3

The alkyl iodides apparently contain a small amount of iodine which inhibits the oxidation of PCl_3 with oxygen (Ref 2). Thus,

Synthesis of Organo-phosphorus Compounds From Hydrocarbons SOV/79-29-8-4c/81
and Their Derivatives. XII. Oxidizing Chlorophosphination of Halogenated
Alkanes

the butyl iodide does not enter into the above-mentioned reaction, and even hinders the oxidation of PCl_3 into the phosphorus-oxy-chloride. Table 1 gives the results of the oxidizing chlorophosphination of the halogen alkanes used, and characterizes the acid chlorides of the halogen-alkane-phosphinic acids. The acid chlorides (V) and (VI) could not be separated as such. Their formation in the oxidizing chlorophosphination of the above-mentioned chlorine derivatives of ethane had to be confirmed by transformation of (V) and (VI) into the diethyl esters of the corresponding di- and trichloro-ethane-phosphinic acid. When treating compound (V) with water, it is not only converted into the free acid, but at the same time the dehydrochlorination of the 2,2-dichloro-ethyl radical takes place, probably according to scheme 2. It was possible to carry out the oxidizing chlorophosphination of bromine- and fluorine-substituted paraffins as well as of some mono-, di- and trichloro-alkanes. The acid chlorides of the 1-bromo-butane-, 2-fluoro-propane-, fluoro-2-chloro-ethane-, 2-chloro-butane-, 2,2-di-

Card 2/3

Synthesis of Organo-phosphorus Compounds From Hydrocarbons SOV/79-29-8-40/81
and Their Derivatives. XII. Oxidizing Chlorophosphination of Halogenated
Alkanes

chloro-ethane, and 2,2,2-trichloro-ethane-phosphinic acid were synthesized. The diethyl esters of the 2,2-dichloro- and 2,2,2-trichloro-ethane-phosphinic acid were obtained. Table 2 shows that on the oxidizing chlorophosphination the 1-bromo-butane behaves in exactly the same way as the 1-chloro-butane and 1-cyano-butane. There are 2 tables and 6 Soviet references.

SUBMITTED: May 15, 1958.

Card 3/3

30705

S/079/60/030/05/34/074
B005/B016

5.3630

AUTHORS:

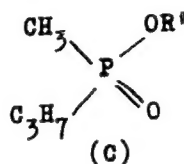
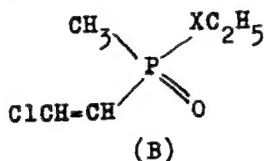
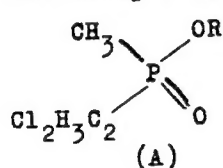
Zinov'yev, Yu. M., Soborovskiy, L. Z.

TITLE:

Synthesis of Organophosphorus Compounds From Hydrocarbons and Their Derivatives. XIV. Oxidative Chlorophosphination of Vinyl Chloride With Methyl-dichloro Phosphine and Preparation of Some Esters of Dialkyl-phosphinic Acids

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 5, pp. 1571-1573

TEXT: In the present paper the synthesis of some chloro-substituted alkyl esters of dialkyl-phosphinic acids is described. 10 compounds of the following 3 types were synthesized:



R = CH₃, C₂H₅, n-C₃H₇,
n-C₄H₉, CH(CH₃)₂,
CH₂CH(CH₃)₂;
X = O or S, R' = CH₂CH₂Cl,
CH(CH₂Cl)₂

Card 1/3

30704

Synthesis of Organophosphorus Compounds From Hydrocarbons and Their Derivatives. XIV. Oxidative Chlorophosphination of Vinyl Chloride With Methyl-dichloro Phosphine and Preparation of Some Esters of Dialkyl-phosphinic Acids S/079/60/030/05/34/074 B005/B016

The acid chlorides of methyl-dichloro-ethyl-phosphinic acid (I), methyl-2-chloro-ethenyl-phosphinic acid (II), and methyl-propyl-phosphinic acid (III) were used as initial products for these syntheses. These acid chlorides were esterified with the corresponding alcohols. The acid chlorides (I) and (II) were first prepared by the authors by oxidative chlorophosphination of vinyl chloride with methyl-dichloro phosphine in the presence of oxygen; the third acid chloride was described previously (Ref. 2). On distillation of the products of the afore-mentioned reaction of vinyl chloride with methyl-dichloro phosphine, a partial hydrogen chloride separation from the acid chloride (I) is likely to occur, to give the acid chloride (II). On oxidative chlorophosphination of vinyl chloride with phosphorus trichloride, the acid chlorides of isomeric dichloro-ethane-phosphinic acids result (Ref. 1). Therefore, isomeric products are also likely to result on oxidative chlorophosphination of vinyl chloride with derivatives of phosphorus trichloride of the RPOCl_2 type, for instance with the methyl di-chloro phosphine discussed. Accordingly, it seems very

Card 2/3

50705

Synthesis of Organophosphorus Compounds From S/079/60/030/05/34/074
Hydrocarbons and Their Derivatives. XIV.Oxidative B005/B016
Chlorophosphination of Vinyl Chloride With Methyl-
dichloro Phosphine and Preparation of Some
Esters of Dialkyl-phosphinic Acids

probable that mixtures of isomeric esters were obtained in the ester synthesis from the acid chlorides prepared by chlorophosphination which, however, were not separated. In a table, all compounds synthesized by the authors (the 2 acid chlorides (I) and (II), 6 esters of type (A), 2 esters of type (B), and 2 esters of type (C)) are listed. Yield, boiling point, density, refractive index, and molecular refraction are given for each of these compounds. In an experimental part, the synthesis of the individual compounds is described. For all substances synthesized, the results of the ultimate analysis are given. There are 1 table and 4 references: 3 Soviet and 1 American. X

SUBMITTED: May 28, 1959

Card 3/3

5.3620

90706
S/079/60/030/05/35/074
B005/B016

AUTHORS: Gladshteyn, B. M., Soborovskiy, L. Z.

TITLE: Investigation in the Field of Organic Sulfur Compounds.
V. Synthesis and Some Properties of Halogen-ethine-sulfonic
Acid Chloride

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 5, pp. 1574-1577 X

TEXT: At the beginning the authors give a survey of the experiments described in publications with respect to the synthesis of compounds which contain a sulfo group bound to a carbon atom of acetylene (Refs. 1-4). The Soviet authors A. V. Dombrovskiy and G. M. Prilutskiy (Ref. 3) are mentioned in this connection. In the present paper, the synthesis of β -chloro-acetylene-sulfonic acid chloride, and various reactions of this compound, are described. The scheme of the synthesis is given. Acetylene which is allowed to react with ethyl magnesium bromide serves as the initial product. The resultant organomagnesium complex (Iotsich complex) is converted by means of SO_2Cl_2 to the unstable acetylene-disulfonic acid chloride which passes over to the hydrate of the β -chloro-acetylene-

Card 1/3

Investigation in the Field of Organic Sulfur
Compounds. V. Synthesis and Some Properties of
Halogen-ethine-sulfonic Acid Chloride

S/079/60/030/05/35/074
B005/B016

sulfonic acid chloride (I) under separation of SO_2 when treated with water. The yield in (I) is about 10% calculated for the initial ethyl bromide. The compound (I) synthesized decolorizes potassium permanganate solutions, separates iodine from potassium iodide solutions, reacts after some time with the Ilcosvay reagents ($\text{Cu}^+ + \text{NH}_4\text{OH}$) to form a characteristic precipitate of copper-chloro acetylide, and reacts in the form of an explosion with aniline. If the reaction with aniline is carried out under cooling and stirring, the crystalline, light-yellow dihydrochloride of the phenyl amide of β -phenyl-amino-acetylene-sulfonic acid is formed. Under the action of aqueous bases on (I), the sulfo group is separated even more readily than with the corresponding derivatives of ethane and ethylene. The mere action of aqueous ammonia (1 : 1) causes the SO_3^{2-} ions to form in the solution. A characteristic reaction of compound (I) is the reaction with bromine in carbon tetrachloride. Decolorization occurs in this connection; the analogous β -chloro-ethylene-sulfonic acid chloride does not decolorize the bromine solution under equal conditions. To convert the sulfonic acid chloride (I) to the corresponding sulfonic acid fluoride, the authors investigated the reactions of (I) with potassium fluoride and

Card 2/3

Investigation in the Field of Organic Sulfur
Compounds. V. Synthesis and Some Properties of
Halogen-ethine-sulfonic Acid Chloride

S/079/60/030/05/35/074
B005/B016

zinc fluoride. The reaction with powdered potassium fluoride proceeds vigorously, and a mixture of β -chloro-acetylene-sulfonic acid chloride and the initial product (I) is formed in the ratio ~55:45. Compound (I) is completely decomposed by aqueous potassium fluoride solutions. An organic fluoro compound is not even formed by treating (I) with solid zinc fluoride at 150°. All reactions performed are described in detail in an experimental part. All resultant products are characterized by physical data. V. N. Chernetskiy assisted in the experimental work. N. P. Rodionova and Ye. M. Popov carried out the spectroscopic investigations of compound (I). There are 9 references, 6 of which are Soviet.

SUBMITTED: May 27, 1959

Card 3/3

GLADSHTEYN, B.M.; SOBOHOVSKIY, L.Z.

Studies in the series of sulfur organic compounds. Part 6:
Synthesis of β -hydroxyethylsulfonofluoro-N,N-dimethylcarbamate.
Zhur.ob.khim. 30 no.6:1960-1954 Je '60.

(MIRA 13:6)

(Carbamic acid) (Sulfur organic compounds)

5.37000

S/079/60/030/007/015/020
B001/B067 82298

AUTHORS: Raver, Kh. R., Bruker, A. B., Soborovskiy, L. Z.
TITLE: Reaction of Tetrafluoro Ethylene¹ With Boron Trichloride
PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 7,
pp. 2366 - 2368

TEXT: In the introduction, a survey is given on publications on the substitution of chlorine for fluorine bound to carbon. Then, the reaction of tetrafluoro ethylene with boron trichloride is studied. It was expected that boron chloride, like aluminum chloride, would be bound to substitute the fluorine atoms in the carbon fluorides by chlorine. On passing the vapors of boron trichloride and tetrafluoro ethylene over coal at 200-250° boron trifluoride is formed, which is separated and identified in the form of $4\text{BF}_3 \cdot 3(\text{C}_2\text{H}_5)_2\text{O}$, as well as trichloro-fluoro
ethylene: $\text{CF}_2 = \text{CF}_2 + \text{BCl}_3 \longrightarrow \text{CCl}_2 = \text{CFCl} + \text{BF}_3$. The same results were also obtained in reacting tetrafluoro ethylene with boron trichloride in the autoclave at 100-150° under a pressure of 30-35 atm.

Card 1/2

Reaction of Tetrafluoro Ethylene With Boron
Trichloride

S/079/60/030/007/015/020
B001/B067 82298

It must be said that in contrast with the reaction of tetrafluoro ethylene with aluminum chloride, where difluoro-dichloro ethylene and difluoro aluminum chloride are formed, boron trifluoride and trichloro-fluoro ethylene are formed in the above reaction. There are 8 references: 2 Soviet and 4 US.

SUBMITTED: June 1, 1959

X

Card 2/2

S/079/60/030/008/012/012/XX
B001/B066

5.3630

2209, 1153. 1266

AUTHORS: Soborovskiy, L. Z., Gololobov, Yu. G., and Fedotova, V. V.

TITLE: Reaction of Trivalent Phosphorus Compounds With Halogenated
Acid Chlorides. I. Reaction of Trialkyl Phosphites With
Trichloro-acetyl Chloride

PERIODICAL: Zhurnal obshchey khimii, 1960. Vol. 30. No. 8, pp.2586-2590

TEXT: When reacting triethyl phosphite with trichloro-acetyl chloride
(Ref. 3). a product had been separated from the reaction mass, in addition

to $(RO)_2 \overset{\overset{O}{\parallel}}{P} - O - \overset{\overset{O}{\parallel}}{C} - \overset{\overset{O}{\parallel}}{P}(OR)_2$ (I) , which had been mistaken for the

ketoester. The authors investigated more thoroughly the conversions taking
place during the reaction of triethyl phosphites with trichloro-acetyl
chloride, since, owing to the presence of a trichloro-methyl radical on
the carbonyl group, at least a partial formation of trichloro-vinyl esters

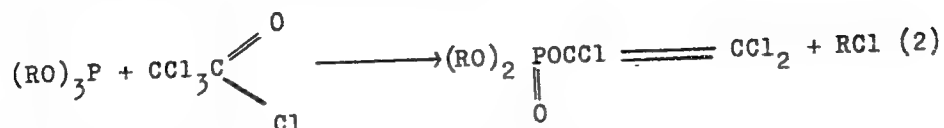
Card 1/3

85715

Reaction of Trivalent Phosphorus Compounds
With Halogenated Acid Chlorides. I. Reaction
of Trialkyl Phosphites With Trichloro-
acetyl Chloride

S/079/60/030/008/012/012/XX
B001/B066

hitherto unknown was to be expected.



In the reaction of trialkyl phosphites with a considerable excess of trichloro-acetyl chloride under mild conditions in addition to compound (I) (yield, 15-25%), compounds were obtained which were identified to be trichloro-vinyl-dialkyl phosphates. Molecular weight and analytical data indicated that there was only one phosphorus atom in the molecule. The investigation of the resulting products revealed that they add two chlorine atoms to give pentachloro derivatives; by acid hydrolysis they are completely converted to phosphoric, and not to phosphorous acid; the infrared spectrum shows an absorption band characteristic of the C=C double bond. In order to compare the properties of the resultant tri-

Card 2/3

S/020/60/135/004/020/037
BC16/B062

AUTHORS: Bruker, A. B., Balashova, L. D., and Soborovskiy, L. Z.

TITLE: Synthesis of Elemental-organic Compounds in Which Silicon or Tin Are Directly Bound to Phosphorus or Arsenic

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 4, pp. 843-846

TEXT: The authors report on the synthesis of elemental-organic compounds containing the following bonds: I) Si—P, II) Si—As, and III) Sn—P. They studied the reaction between hydrophosphide, alkyl hydrophosphide or hydroarsenide of alkali metals, on the one hand, and the monohalogen alkyl derivatives of silicon and tin, on the other hand. The authors aimed at obtaining the above-mentioned compounds and succeeded in obtaining compounds in which hydrogen or the alkyl and aryl radicals, respectively, are directly bound to the element of the IV or V group of the periodic system. ✓

General reaction scheme: $R_3E^{IV}X + MeE^VR'_2 \rightarrow R_3E^{IV}-E^VR'_2$; R, R' = H, alkyl,

aryl, etc.; E^{IV} = Si, Sn; E^V = P, As; X = halogen. Ad I) The authors observed that the use of alkyl fluoro silanes ensures the best reaction

Card 1/4

Synthesis of Elemental-organic Compounds in
Which Silicon or Tin Are Directly Bound to
Phosphorus or Arsenic

S/020/60/135/004/020/037
B016/B062

course. If trimethyl fluoro silane is caused to act upon potassium- (sodium-) dihydro phosphide, a mixture of bis- and tris-(trimethyl silyl) phosphines $[(CH_3)_3Si]_3P$ is obtained in a total yield of 40 - 50 %. The formation of secondary and tertiary silyl phosphines is explained by means of the scheme attached. The structure of silyl phosphines in which phosphorus is in the trivalent state was confirmed by hydrolysis with water and by infrared spectra. Ad II) Bis- and tris-(trimethyl silyl) arsine $[(CH_3)_3Si]As$ was obtained by allowing trimethyl fluoro silane to act upon potassium dihydro arsenide (total yield 25 %). The compounds of group II were less stable than those of group I. Ad III) Since the halogen derivatives of tin, as is known, are not subject to ammonolysis, the authors performed the reaction between the sodium- (potassium-) dihydro phosphide and the above derivatives in liquid ammonia in which both components are soluble. Consequently, this reaction takes place much more readily than in ether, and the use of fluorine derivatives is no more necessary. By interaction between trimethyl tin bromide and sodium hydrophosphide, the authors obtained an approximate yield of 65 % of tris-(trimethyl stannane) phosphine:

Card 2/4

Synthesis of Elemental-organic Compounds in
Which Silicon or Tin Are Directly Bound to
Phosphorus or Arsenic

S/020/60/135/004/020/037
B016/B062

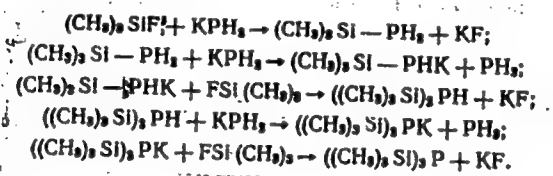
$[(CH_3)_3Sn]_3P$. Mention is made of a paper by B. Arbuzov and coworkers
(Ref. 1). N. Rodionova, S. Dubov, A. Khokhlova, and V. Fedotova examined
the spectra. There are 15 references: 2 Soviet, 2 US, 2 Italian, 7 German,
and 1 British.

PRESENTED: June 24, 1960, by I. L. Knunyants, Academician

SUBMITTED: June 23, 1960

Card 3/4

S/020/60/135/004/020/037
B016/B062



Card 4/4

15.8114

11.2214

89793

S/190/61/003/003/009/014
B101/B204

AUTHORS: Rodionova, Ye. F., Kolesnikov, G. S., Soborovskiy, L. Z.,
Gladshiteyn, B. M.

TITLE: Carbon-chain polymers and copolymers. XXX. The copolymeriza-
tion of vinylsulfofluoride

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 3, 1961,
456-458

TEXT: It was the purpose of the present work to obtain copolymers from
vinylsulfofluoride (M_1), produced from β -chloroethylsulfofluoride, with
(M_2): styrene, vinylacetate, methylmethacrylate and acrylonitrile. The
copolymerization was carried out at 50°C without solvent, in a nitrogen
atmosphere with 0.5 mole% azoisobutyric acid dinitrile. It lasted 25 hr.
The copolymers were dissolved and precipitated with methanol. Their
fluorine content and the softening temperature were determined. Table 1
gives the results. The good styrene copolymer yield and its softening
temperature which was higher than that of polystyrene gave rise to further
Card 1/4

Carbon-chain polymers and...

89993

S/190/61/003/003/009/014
B101/B204

experiments under the same conditions, but with a varied ratio between vinylsulfofluoride and styrene. The copolymerization took 49 hr. Table 2 gives the results. With a content of about 32 mole% styrene, an azeotropic copolymer is obtained. The figure shows the results of the thermomechanical investigation of these copolymers, carried out according to B. L. Tsetlin (Ref. 3: Zavodsk. labor., 32, 352, 1956). Equimolar mixtures of vinylsulfofluoride and styrene copolymerized in emulsion, after 7 hr resulted in a copolymer (in the presence of ammonium persulfate) with 6.85% F, yield 69%. Mention is made of the fact that polymerization of vinylsulfofluoride by means of benzoyl peroxide, azoisobutyric acid dinitrile or $TiCl_4$ was not successful. The authors thank G. L.

Slonimskiy and his collaborators for determining the thermomechanical properties, and S. A. Pavlova for determining the molecular weights. There are 1 figure, 2 tables, and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to English-language publication reads as follows: USA Patent 2,653,973 (1953); Chem. Abstrs., 48, 8813, (1954)

ASSOCIATION: Institut elementoorganicheskikh soedineniy AN SSSR
(Institute of Elemental Organic Compounds, AS USSR)

Card 2/4

Carbon-chain polymers and...

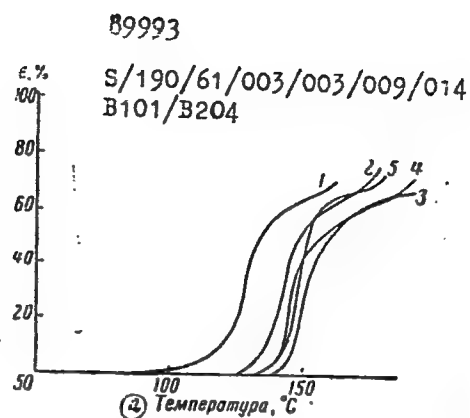
SUBMITTED: September 2, 1960

Legend to the figure:

Molar ratio $M_1 : M_2$

in styrene-copolymer:

1) 1:6; 2) 3:8; 3) 5:11;
4) 3:5; 5) 2:3; a) tem-
perature.



M_1	Выход пере- осажденного сополимера, вес. % (1)	Удельная вязкость 1 %-ного раствора при 20° (раствори- тель) (2)	Содержание фтора в сопо- лимере (сред- нее), % (3)	Молярное соотноше- ние $M_1 : M_2$ в сополиме- ре (4) ре	Темпе- ратура раз- мещения, °C (5)
Стирол (6)	72	1,83 (этилацетат) (7)	7,10	2:3	135
Винилацетат (7)	60	0,4 (ацетон) (8)	8,67	4:5	110
Акрилонитрил (8)	44	1,03 (диметилформ- амид) (9)	4,51	1:6	110
Метилметакрилат (9)	56	0,25 (ацетон) (10)	3,72	1:4	115

Card 3/4

89993

Carbon-chain polymers and...

S/190/61/003/003/009/014
B101/B204

Legend to Table 1:

1) Yield in reprecipitated copolymer, weight%. 2) Specific viscosity of the 1% solution at 20°C in (solvent). 3) Mean fluoride content of the copolymer. 4) Molar ratio $M_1:M_2$. 5) Softening temperature. 6) Styrene. 7) Vinylacetate. 8) Acrylonitrile. 9) Methylmethacrylate. 10) Ethylacetate. 11) Acetone. 12) Dimethylformamide.

Legend to Table 2:

1) Initial ratio of monomers, mole%. 2) Copolymer yield. 3) Specific viscosity of the 1% solution in ethylacetate at 20°C. 4) Osmometrically determined molecular weight. 5) F content in the copolymer. 6) Molar ratio $M_1:M_2$ in the copolymer. 7) Softening temperature.

Card 4/4

Состав исходной смеси мономеров, мол. % (1)		Выход сополимера, % (2)	Удельная вязкость 1 %-ного раствора в этилацетате при 20° (3)	Мол. вес сополимера (осмометрический метод) (4)	Содержание фтора в сополимере, % (5)	Молярное соотношение $M_1:M_2$ в сополимере (6)	Температура размягчения, °C (7)
M_1	M_2						
10	90	90	0,80	—	2,71 2,50	1:6	121
20	80	92	0,88	698 000	4,74 5,00	3:8	135
30	70	89	0,93	—	5,62 5,50	5:11	145
40	60	87	0,90	—	6,83 6,48	3:5	140
50	50	83	0,92	1 160 000	7,28 6,81	2:3	142

GLADSHTEYN, B.M.; POLYANSKAYA, E.I.; SOBOROVSKIY, L.Z.

Sulfur organic compounds. Part 7: Reactions of additions to
vinyl- and β -chlorovinylsulfonyl fluorides. Zhur. ob.khim. 31
no.3:855-857 Mr '61. (MIRA 14:3)
(Sulfonyl fluoride)

53630

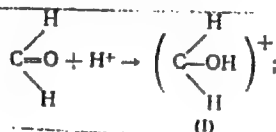
2209, 2409, 2915

28649

S/020/61/139/006/015/022
B103/B101

AUTHORS: Grinshteyn, Ye. I., Bruker, A. B., and Soborovskiy, L. Z.
TITLE: Oxymethylation of phosphine and its derivatives
PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 6, 1961, 1359-1362

TEXT: So far, it has been assumed that PH_3 as well as alkyl and aryl phosphines react with formaldehyde only with the participation of HCl or several salts. For this reaction (Ref. 6, see below) a mechanism has been suggested, according to which this process takes place via the intermediate formation of a formaldehyde cation (I). (I) reacts with a PH_3 molecule where a proton is split off. First, a monohydroxymethyl derivative is formed and then di- and tri-(hydroxymethyl)-phosphines and tetrahydroxymethyl phosphonium chloride:

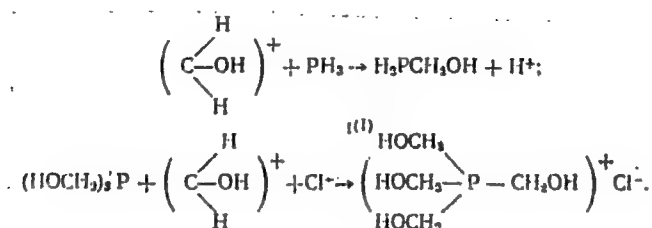


Card 1/4

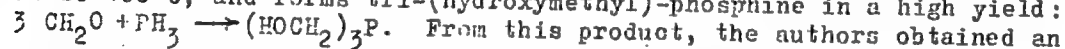
28649

Oxymethylation of phosphine and its...

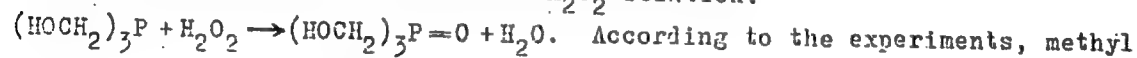
S/020/61/139/006/015/022
B103/B101



The authors, however, found that formaldehyde may react with phosphines according to another mechanism, derivatives of trivalent phosphorus being formed. Paraformaldehyde, for example, reacts with PH_3 (molar ratio 3:1) at 90-100°C, and forms tri-(hydroxymethyl)-phosphine in a high yield:



From this product, the authors obtained an oxide under the action of a dilute H_2O_2 solution:



Card 2/4

28649

S/020/61/139/006/015/022

B103/B101

Oxymethylation of phosphine and its...

phosphine reacts with paraformaldehyde more readily, i.e., more rapidly and at lower temperatures than PH_3 . It forms di-(hydroxymethyl)-methyl

phosphine: $\text{CH}_3\text{-PH}_2 + 2\text{CH}_2\text{O} \rightarrow (\text{HOCH}_2)_2\text{PCH}_3$. This compound, which boils at $90^\circ\text{C}/5\text{ mm Hg}$, has not yet been described in the literature. With H_2O_2 it can be oxidized to a new oxide: $(\text{HOCH}_2)_2\text{PCH}_3 + \text{H}_2\text{O}_2 \rightarrow (\text{HOCH}_2)_2\text{P}(\text{O})\text{CH}_3$. X

Dimethyl phosphine reacts with paraformaldehyde even more readily, and forms dimethyl hydroxymethyl phosphine: $(\text{CH}_3)_2\text{PH} + \text{CH}_2\text{O} \rightarrow (\text{CH}_3)_2\text{PCH}_2\text{OH}$.

This compound belongs to a new type of monovalent alcohols with an organophosphorus radical at the C atom which is bonded with hydroxyl. The fact that PH_3 and organic phosphines react with formaldehyde even in the absence of a proton source is ascribed to the circumstance that this reaction is caused by an electrophilic attack of the C atom of the carbonyl group to the P atom of the phosphine molecule, thus forming hydroxymethyl phosphine. The latter compound is converted into di- and tri-(hydroxymethyl)-derivatives. This hypothesis explains the fact that methyl and dimethyl phosphines react with paraformaldehyde more readily

Card 3/4

Oxymethylation of phosphine and its...

28649 9/020/61/139/006/015/022
B103/B101

than PH_3 . This is due to the strengthening of the electrodonor properties of phosphorus in the order $\text{PH}_3 < \text{CH}_3\text{-PH}_2 < (\text{CH}_3)_2\text{PH}$. The authors' method makes it possible to synthesize various hydroxyalkyl-substituted phosphines by using different alkyl and aryl phosphines as well as carbonyl compounds. There are 7 non-Soviet references. The three most important references to English-language publications read as follows: Ref. 2: A. Hoffman, J. Am. Chem. Soc., 52, 2995 (1930); Ref. 3: W. A. Reeves et al., J. Am. Chem. Soc., 77, 3923 (1955); Ref. 6: N. L. Paddock, Chem. and Ind., 1955, No. 29,900.

PRESENTED: March 16, 1961, by I. L. Knunyants, Academician

SUBMITTED: March 15, 1961

Card 4/4

5066 KERN, A. J.

36. REACTION OF ARYLPHOSPHONIC ACIDS WITH ACID AMIDES. V. I. Shevchenko et al.	181
37. REACTION OF ARYLPHOSPHONIC ACIDS WITH ACID AMIDES. E. S. Lomovskaya et al.	182
38. REACTION OF ARYLPHOSPHONIC ACIDS WITH ACID AMIDES. E. S. Lomovskaya et al.	183
39. N-DICHLOROPHOSPHONYL DERIVATIVES OF CARBOXYLIC ACIDS (ISOPHOSPHONIC COMPOUNDS). G. I. Lomovskaya	184
40. REACTION OF ARYLPHOSPHONIC ACIDS WITH ACID AMIDES. V. I. Shevchenko et al.	185
41. REACTION OF DIARYLPHOSPHONIC ACIDS. E. N. Tsvetkov	186
42. ESTERIFICATION OF PHOSPHONIC ACIDS. K. A. Petrov and A. I. Gavrilova	187
43. REACTION OF DIARYLPHOSPHONIC ACIDS WITH QUINONES. M. G. Voronkov and B. I. Ionia	205
44. REACTION OF DIARYLPHOSPHONIC ACIDS WITH P-ESTERS. E. S. Lomovskaya and P. I. Ganin	207
45. NEW SYNTHESES OF TRICHLOROPHOSPHONIC ACIDS OF PHOSPHONIC AND ARYLPHOSPHONIC ACIDS. N. P. Orlov and M. G. Voronkov	212
46. ESTERS OF DIARYLPHOSPHONIC ACIDS. G. Kuznetsov and E. M. Pastanov	217
47. ACTION OF CARBON TETRACHLORIDE AND ALKYL ESTERS OF ETHYLPHENYLPHOSPHONIC ACID. G. Kuznetsov et al.	220
48. REACTION OF DIARYL ACIDS WITH METHYLCHLORIDES. L. V. Kestrov and R.A. Sabirova	225
49. REACTION OF DIARYLPHOSPHONIC ACIDS WITH AROMATIC DIAZO COMPOUNDS. A. F. Grapov	228
50. REACTION OF ESTERS OF PHOSPHONIC ACID WITH TRICHLOROACETYL CHLORIDE. L. Z. Soborova et al.	230
51. REACTION OF PHOSPHONIC PENTACHLORIDE WITH ETHYL ACETATES. T.F. Lutsenko and M. Kirilov	237
52. STUDIES OF PHOSPHONIC-CONTAINING POLYESTERS. V. V. Kornak et al.	242
53. SYNTHESIS OF PHOSPHONIC-CONTAINING DICARBOXYLIC ACIDS AND THE FORMATION OF POLYAMIDES FROM THEM. V. V. Kornak et al.	247
54. SYNTHESIS, POLYMERIZATION, AND CRYSTALLIZATION OF ESTERS OF VINYLPHOSPHONIC ACID. G. J. Kozlovskiy et al.	255
55. NEW SYNTHESES OF NEW ORGANOPHOSPHORUS MONOMERS AND POLYMERS. M. A. Andreeva et al.	263
56. SYNTHESIS OF BIFUNCTIONAL COMPOUNDS OF PHOSPHORUS. B. A. Arbuzov et al.	272
57. SYNTHESIS AND APPLICATIONS OF ORGANOPHOSPHORUS COMPOUNDS IN THE PLASTICS INDUSTRY. P. A. Maslennikov et al.	279
58. PHOSPHORUS-CONTAINING POLYESTERS AND POLYAMIDE RESINS. K. A. Petrov et al.	285
59. APPLICATION OF ALKYLPHOSPHONATE TO POLYESTER SYNTHESIS. K.A. Petrov et al.	292
60. SUBSTITUTED ORGANOPHOSPHORUS COMPOUNDS AS MONOMERS. E. V. Kuznetsov et al.	296

Kliniya i Prilozheniya Organofosforov (Chemistry and Application of Organophosphorus Compounds) A. Ye. Arbuzov, Ed. publ. by Kazan' Affil, Acad. Sci. USSR, Moscow, 1962 632pp.

Collection of complete papers presented at the 1959 Kazan Conference on Chemistry of Organophosphorus Compounds.

RAVER, Kh.R.; BRUKER, A.B.; SOBOROVSKIY, L.Z.

Reaction of aqueous formaldehyde with phosphine and 1,1,2,2-tetrafluoroethylphosphine. Zhur.ob.khim. 32 no.2:588-590
F '62. (MIRA 15:2)

(Formaldehyde)

(Phosphine)

S/079/62/032/009/008/011
I048/I242

AUTHORS: Balashova, I.D., Bruker, A.B., and Soborovskiy, I.Z.

TITLE: The interaction of silane and monoalkylsilanes with hydrogen halides under increased pressure, in the absence of a catalyst

PERIODICAL: Zhurnal obshechey khimii, v.32, no.9, 1962, 2982-2983

TEXT: Contrary to published data, interaction was observed between SiH_4 (or CH_3SiH_3) and HCl or HI at room temperature and increased pressures (20-60 atm), in the absence of catalysts. The liquid silane (or methylsilane) was condensed at liquid-air temperature and mixed with an equimolar amount of HCl or HI in a closed steel reaction vessel. The latter was heated at room temperature and the pressure within increased with time, reaching a constant value after between 0.75 hrs (in the case of methyl silane + HI) and 4 days (silane + HCl). The reactor was again immersed in liquid air, opened, and the reaction products were separated by fractionation at atmospheric pressure. The degree of conversion of the SiH_4 was

Card 1/2

S/079/62/032/009/008/011
I048/I242

The interaction of silane...

47.4-97.2%, that of CH_3SiH_3 was 100%; the total yield of halogen silanes (on the basis of silanes converted) was 94-99%, the yield of monohalogen silanes was 70.0-88.5%, and that of dihalogensilanes 0-17.1%. The highest yield of dihalogen silanes was obtained from $\text{SiH}_4 + \text{HI}$, while the reaction between CH_3SiH_3 and HI did not yield the dihalogen derivative. There is 1 table.

SUBMITTED: July 13, 1961

Card 2/2

I 13351-63

EWP(j)/EPF(c)/EWT(m)/BDS ASD/ESD-3 Pc-4/Pr-4 RM/WW

ACCESSION NR: AP3002625

8/0079/63/033/006/1919/1923

AUTHOR: Bruker, A. B.; Baranayev, M. K.; Grinshteyn, Ye. I.; Novoselova, R. I.;
Prokhorova, V. V.; Soborovskiy, L. Z.

TITLE: Mechanism and kinetics of hydroxymethylation of phosphines

70
69

SOURCE: Zhurnal obshchey khimii, v. 33, no. 6, 1963, 1919-1923

TOPIC TAGS: hydroxymethylation, methylation, phosphine, electron-donor properties, electron-donor, formaldehyde, activation energy, phosphorus, carbon

ABSTRACT: The kinetics of reactions of hydrogen phosphide, ethyl phosphine, methyl phosphine, methyl-ethyl phosphine and dimethyl phosphine with paraformaldehyde without using special catalysts and solvents has been investigated. The activation energy of the reaction was determined. It was found that according to the values of the energy of activation in the reaction of paraformaldehyde, the studied phosphines follow the order: PH sub 3 less than C sub 2 H sub 5 PH sub 2 much less than CH sub 3 PH sub 2 less than CH sub 3 (C sub 2 H sub 5) PH much less than (CH sub 3) sub 2 PH. The proposed mechanism was confirmed, according to which the reaction proceeds with the electrophilic attack by the

Card 1/2

L 13351-63

ACCESSION NR: AP3002625

carbon atom of the carbonyl group to the electron-donor phosphorus atom in the phosphine molecule with the subsequent rearrangement of the intermediate complex. The theory is advanced that, in the reactions investigated, the increase in reactivity of phosphines substituted by methyl groups is connected with the fact that the weakly localized electron pair of the C-H bond in the methyl group at phosphorus reacts with 3rd-orbitals of the latter. This increases the electron-donor properties of phosphorus and hence facilitates the reaction with the electrophilic atom of the carbonyl group. Orig. art. has: 2 tables and 1 formula.

ASSOCIATION: none

SUBMITTED: 22Jun62

DATE ACQ: 20Jul63

ENCL: 00

SUB CODE: CH

NO REF SOV: 003

OTHER: 004

Card 2/2

1. 63183-65 EWT(m)/EPF(c)/ENP(j) Pc-4/Pr-4 RM
ACCESSION NR: AP5000008 S/0286/64/000/021/0014/0014

AUTHOR: Gladshetyn, B. M.; Noskov, V. G.; Soborovskiy, L. Z. ²⁰_B

TITLE: A method for preparing compounds containing a phosphorus-titanium bond. Class 12, No. 166026

SOURCE: Byul. izobr. i tovar. znakov, no. 21, 1964, 14

TOPIC TAGS: phosphorus titanium bond, trialkoxychlorotitanate, titanium tetrachloride, organic phosphinous chloride

ABSTRACT: An Author Certificate has been issued for a method for preparing compounds containing a phosphorus-titanium bond. The method involves the reaction of trialkoxychlorotitanates [tris(alkoxy)titanium chloride?] or titanium tetrachloride with organic phosphinous chlorides.

ASSOCIATION: none

Card 1/12

SUBMITTED: 4 NOV 62

ACCESSION NR. AP4022961

S/0079/64/034/003/0866/0869

AUTHOR: Gololobov, Yu. G.; Dmitriyeva, T. F.; Soborovskiy, L.Z.

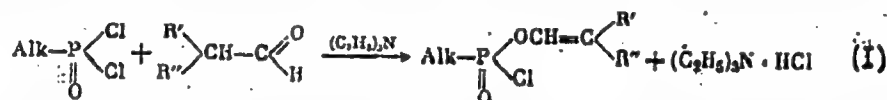
TITLE: Vinyl ester of phosphoric acids

3. Acid chlorides of Alpha-alkenyl esters of alkylphosphonic acids

SOURCE: Zhurnal obshchey khimii, v. 34, no. 3, 1964, 866-869

TOPIC TAGS: Vinyl ester, phosphoric acid, acid chloride, alpha-alkenyl ester, alkylphosphonic acid, triethylamine

ABSTRACT: Previously unknown acid chlorides of α -alkenyl esters of alkylphosphonic acids were obtained from dichloroanhydrides of alkylphosphonic acids during a reaction of the latter with equimolecular amounts of aldehydes in the presence of triethylamine. The reaction should be stopped at the stage of formation of mono-vinyl esters.

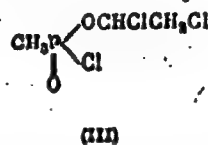
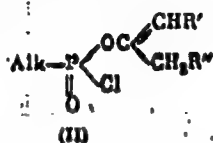


Similarly, during the reaction of dichloroanhydrides of alkylphosphonic acids with

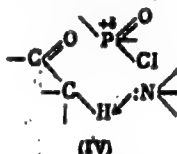
Card: 1/3

ACCESSION NR. AP4022961

ketones, the previously unknown acid chlorides of the second α -alkenyl esters of the standard acids (II) were obtained.



It is possible that the formation of vinyl esters (I) and (II) occurs through the intermediate cyclic complex



which develops during an attack by triethylamine, on the protonizing hydrogen atom, with subsequent weakening of the (P-Cl)-bond. The possibility of contact of the positively charged phosphorous with hydrogen of the carbonyl group, favors the

Card 2/3

ACCESSION NR. AP4022961

given process. The intermediate complex described decomposes during the rupture of the corresponding (P-Cl)- and (C-H)-bonds with a formation of vinyl ester and triethylamine hydrochloride. "Spectrum research was by V. V. Fedotova and S. S. Dubovoy". Orig. Art. has: 1 table

ASSOCIATION: none

SUBMITTED: 24Jan63

DATE ACQ: 15Apr64

ENCL: 00

SUB CODEL CH

No. REF. SOV: 004

OTHER: 005

Card 3/3

ZINOV'YEV, Yu.M.; SOBOROVSKIY, L.Z.

Interaction of tetraethyllead with phosphorus trichloride or
methyldichlorophosphine and oxygen. Zhur. ob. khim. 34 no. 3:
929-932 Mr '64. (MIRA 17:6)

L 18271-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM
ACCESSION NR: AP5002984

S/0079/64/034/CC9/2897/2902

AUTHOR: Gladshcheyn, B. M.; Rabkina, E. I.; Fedotova, V. V.; Soborovskiy, L. Z. ^B

TITLE: Investigation in the series of organic sulfur compounds. VIII. Behavior of alkane- and alkenesulfonyl fluorides, as well as their halo derivatives, towards esters of trivalent phosphorus

SOURCE: Zhurnal obshchey khimii, v. 34, no. 9, 1964, 2897-2902

TOPIC TAGS: organic sulfur compound, fluoride, ester, organic phosphorus compound

Abstract: The behavior of alkane- and alkenesulfonyl fluorides, as well as their halo derivatives, toward highly reactive esters of methylphosphinous acid was studied. The reactions of methane-, ethane-, vinyl-, beta-chloroethane-, and beta-chlorovinylsulfonyl fluorides with the diethyl ester of methylphosphinous acid were investigated. Methane- and ethanesulfonyl fluorides did not react with diethyl methylphosphinite under the conditions used. Vinyl-sulfonyl fluoride added diethyl methylphosphinite in the 1,4-position. Beta-chlorovinylsulfonyl fluoride reacted with diethyl methylphosphinite at the beta-carbon atom according to the Arbuzov rearrangement at equimolar ratios of the substances. Beta-chlorovinylsulfonyl fluoride reacted in steps with 2 moles of diethyl methylphosphinite, forming ethyl-

Card 1/2

L 18271-65

ACCESSION NR: AP5002984

(beta-fluorosulfovinyl)methylphosphinite, which reacted with the second mole of diethyl methylphosphinite similar to the reaction of diethyl methylphosphinite with vinylsulfonyl fluoride. Beta-chloroethanesulfonyl fluoride reacted with diethyl methylphosphite in two ways: by forming the Arbuzov rearrangement products, and at the alpha-carbon atom, eliminating vinylsulfonyl fluoride. Orig. art. has 15 formulas and 1 graph.

ASSOCIATION: none

SUBMITTED: 05Apr63

ENCL: 00

SUB CODE: OC, GC

NO REF SOV: 012

OTHER: 013

JPRS

Card 2/2

L 35562-65 EPF(c)/EWP(j)/EWT(m) Pc-4/Pr-4 RM

S/0285/65/000/005/0023/0023

ACCESSION NR: AP5008145

AUTHORS: Soborovskiy, L. Z.; Gladsheteyn, B. M.; Kulyulin, I. P.

TITLE: A method for obtaining trialkylsilanol esters of methylhaloidophosphinic acid. Class 12, No. 168694

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 5, 1965, 23

TOPIC TAGS: ester, trialkylsilanol, methylhaloidophosphinic acid, hexalkyldisiloxene, difluoroanhydride, methylphosphinic acid

ABSTRACT: This Author Certificate presents a method for obtaining trialkylsilane esters of methylhaloidophosphinic acid. Hexalkyldisiloxenes are heated with difluoroanhydride of methylphosphinic acid at about 95C.

ASSOCIATION: none

SUBMITTED: 25Mar58

ENCL: 00

SUB CODE: 00

NO REF SOV: 000

OTHER: 000

Card 1/1

L 35069-65 EWT(m)/EPF(c)/EPR/EWP(j)/EWA(c) Pc-4/Pr-4/Ps-4 RPL RM/WW
ACCESSION NR: AP5008521 S/0286/65/000/006/0026/0026 48

AUTHOR: Gololobov, Yu. G.; Dmitriyeva, T. F.; Soborovskiy, L. Z.; Zinov'yev, Yu. M.; Kaunyants, I. L.; Sterlin, R. N.

TITLE: A method for producing alkyltrifluorovinylalkylphosphinates. Class 12,
No. 169118 7

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 6, 1965, 26

TOPIC TAGS: fluorine compound, phosphonic acid, organo metallic compound, mercury organic compound

ABSTRACT: This Author's Certificate introduces a method for producing alkyltri-fluorovinylalkylphosphinates. Acid esters of alkylphosphonic acids are interacted with perfluorovinylmercury during heating. The Author's Certificate also covers a modification of this method in which a heating temperature of approximately 100°C is used.

ASSOCIATION: none

SUBMITTED: 20Feb64

NO REF SOV: 000

Card 1/1

ENCL: 00
OTHER: 000

SUB CODE: GC, OC

BAVER, Kn.P.; REUKEN, A.E.; SOBOUROVSKIY, L.S.

Reaction of halolefins with chloride, and hydrides of elements of group III and IV. Part 5: Reaction of tetrafluoroethylene with arsenic hydrides, and hydroxymethylation of fluoroalkylaraines produced. Zhur. ob. khim. 35 no.7:1162-1164 J1 '65.

(MFA 18.8)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651910011-6

1. The first part of the document is a list of the names of the individuals who were involved in the project. The names are listed in alphabetical order. The names are: [illegible]

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001651910011-6"

L 52108-65 EPF(c)/EPR/EWP(j)/EWA(c)/EWT(m) Pc-4/Pr-4/Ps-4 RPL WW/RM

ACCESSION NR: AP5015240

UR/0286/65/000/009/0022/0022

AUTHORS: Grinshteyn, Ye. I.; Bruker, A. B.; Soborovskiy, L. Z.

30
B

TITLE: A method for obtaining primary 1-hydroxyfluoroalkylphosphines. Class 12,
No. 170498

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 9, 1965, 22

TOPIC TAGS: hydroxyfluoroalkylphosphine, fluoroalkyl ketone, hydrogen phosphide

ABSTRACT: This Author Certificate presents a method for obtaining primary
1-hydroxyfluoroalkylphosphines. Fluoroalkyl ketones are interacted with hydrogen
phosphide while being warmed to 50-110C.

ASSOCIATION: Organizatsiya gosudarstvennogo komiteta khimicheskoy promyshlennosti
pri gosplane SSSR (Enterprise of the State Committee of the Chemical Industry at the
Gosplan SSSR)

SUBMITTED: 20Mar64

ENCL: 00

SUB CODE: 00

NO REF SOV: 000

OTHER: 000

Card 1/1 *mb*

L 25679-66 EWT(m)/EWP(j) RM SOURCE CODE: UR/0079/65/035/009/1570/1574
ACC NR: AP6016688
AUTHOR: Gladshiteyn, B. M.; Shitov, L. N.; Kovalev, B. G.; Soborovskiy, L. Z. 38
ORG: none B
TITLE: Mechanism of the direct haloalkylation of elementary phosphorus
SOURCE: Zhurnal obshchey khimii, v. 35, no. 9, 1965, 1570-1574
TOPIC TAGS: free radical, phosphorus, alkylation, halogenation
ABSTRACT: A free radical mechanism of the direct haloalkylation of elemental red phosphorus was experimentally confirmed. The proposed mechanism includes an attack on the phosphorus molecule by radicals formed as a result of homolytic decomposition of the alkyl halide, leading to the formation of phosphorus-containing radicals, the further transformations of which depend on the probability of recombination with other radicals. The hydrocarbon radicals can subsequently either recombine or, splitting out a hydrogen atom, be converted to carbenes, leading to the formation of the reaction products. The reaction products of methyl chloride and of benzyl chloride with red phosphorus were found to contain not only phosphorus-containing substances, but also hydrogen, methane, ethane, ethylene, and propylene, and toluene and trans-stilbene, respectively. R. I. Borodulina and Z. A. Krayneva assisted with the experiment. Orig. art. has: 1 figure, and 3 tables. [JPRS]
SUB CODE: 07 / SUBM DATE: 08Jun64 / ORIG REF: 004 / OTH REF: 009
Card 1/1 dda UDC: 547.241 2

L 25607-66 EWT(m)/EWP(j) RM

ACC NR: AP6016701

SOURCE CODE: UR/0079/65/035/012/2207/2209

AUTHOR: Balashova, L. D.; Bruker, A. B.; Soborovskiy, L. Z.

28

ORG: none

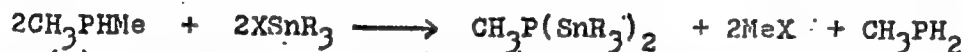
13

TITLE: Investigation of element-elementoorganic compounds. III. Synthesis of alkyltrialkyltin phosphines

SOURCE: Zhurnal obshchey khimii, v. 35, no. 12, 1965, 2207-2209

TOPIC TAGS: organic synthetic process, organotin compound, organolithium compound, organosodium compound, organic phosphorus compound, chlorinated organic compound

ABSTRACT: The preparation of the new compounds -- bis(trimethyltinmethyl)phosphine (I) and bis(triethyltinmethyl)phosphine (II) by two methods are described. The first method is by reaction of the corresponding trialkyltinhalide with sodium (or potassium) methylhydrophosphide in liquid ammonia or with lithium methylhydrophosphide in an ether solution according to the general reaction:



Compound (I) is prepared in an 80-90% yield from the reaction of trimethyltin bromide on lithium methylhydrophosphide in ether solution. Compound (II) is obtained in a 70% yield from the reaction of triethyltin chloride and lithium methylhydrophosphide. The second method is by the action of methylchlorophosphine on

Card 1/2

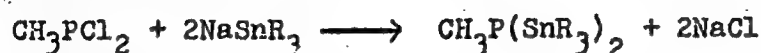
UDC: 547.241

2

L 25607-66

ACC NR: AP6016701

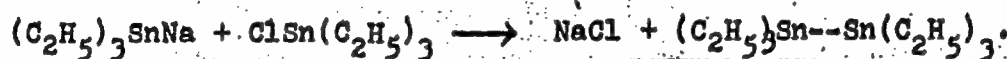
the sodium derivative of trimethyltin or triethyltin according to the general reaction:



The second method gives lower yields of compounds (I) and (II), about 10-15%. In this case the reactions are accompanied by a number of side processes. Thus, in the reaction of methyldichlorophosphine with the sodium derivative of triethyltin, triethyl chloride (11%) and hexaethyldistannane (42%) were isolated:



The reaction of triethyltin chloride with the Na-derivative of triethyltin can lead to the formation of hexaethyldistannane:



[JPRS]

SUB CODE: 07 / SUBM DATE: 18Jan65 / ORIG REF: 001 / OTH REF: 002

Card 2/2 *RV*

L 44179-66 EWT(m)/EWP(j)/T IJP(c) WW/RM

ACC NR: AP6011234

SOURCE CODE: UR/0413/66/000/006/0074/0074

INVENTOR: Shorygina, N. V.; Ninin, V. K.; Soborovskiy, L. Z.; Bruker,
A. B.; Raver, Kh. R.

40
39
B

ORG: none

TITLE: Method of obtaining fireproof and heat-resistant phenol-
formaldehyde resins. Class 39, No. 179920

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 6,
1966, 74

TOPIC TAGS: resin, phenolformaldehyde, organic phosphorus compound,
fire resistant resin, *heat resistant plastic*

ABSTRACT: An Author Certificate has been issued for a method of obtain-
ing fireproof and heat-resistant phenolformaldehyde resins by the modi-
fication of phenolformaldehyde and arylphenolformaldehyde resins with
an organic phosphorus-containing compound and introducing it during the
process of tar formation. To increase the fire and heat resistance of

Card 1/2

UDC: 678.632'0'21:678.85

L 44179-66

ACC NR: AP6011234

resins, oxide of methyl-1,1,2,2,-tetrafluoroethylxymethylphosphine is
used as the phosphorous-containing compound. [NT]

SUB CODE: 11/ SUBM DATE: 31Jul62/

assm
Card 2/2

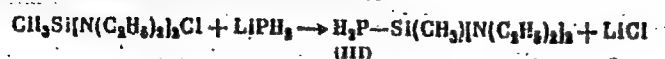
L 16076-66 EWT(m)/EWP(j) RM
 ACC NR: AP6005923 SOURCE CODE: UR/0079/66/036/001/0073/0075
 AUTHOR: Balashova, L. D.; Bruker, A. B.; Soborovskiy, L. Z.
 ORG: none
 TITLE: Metal organometallic compounds. Part 2. Synthesis of silyl- and alkylsilylphosphines
 SOURCE: Zhurnal obshchey khimii, v. 36, no. 1, 1966, 73-75
 TOPIC TAGS: organosilicon compound, organolithium compound, silane
 ABSTRACT: Silylphosphines in which the silicon atom is linked to alkyl-alkoxy or alkyl-dialkylamino groups, were synthesized. Thus, action of the corresponding dimethylalkoxychlorosilane on lithium methylhydrophosphide produced bis(dimethylmethoxysilyl)methylphosphine (I) and bis(dimethylisobutoxysilyl)methylphosphine (II):

$$2\text{CH}_3\text{PHLi} + 2\text{ClSi}(\text{CH}_3)_2(\text{OR}) \rightarrow \text{CH}_3\text{P}[\text{Si}(\text{CH}_3)_2(\text{OR})]_2 + \text{CH}_3\text{PH}_2 + 2\text{LiCl}$$
 (I) R = CH₃, (II) R = iso-C₄H₉
 Reaction of bis(diethylamino)methylchlorosilane with lithium dihydrophosphide yield-
 UDC: 547.241 + 547.245
 Card 1/3

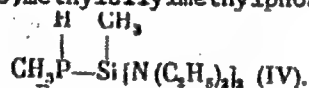
L 16076-66

ACC NR: AP6005923

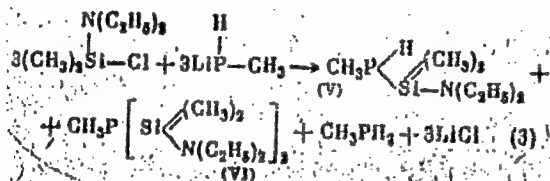
ed bis(diethylamino)methylsilylphosphine (III):



Similarly, bis(diethylamino)methylsilylmethylphosphine



was obtained from the reaction of bis(diethylaminomethyl)chlorosilane with lithium methylhydrophosphide. When diethylaminodimethylchlorosilane reacted with lithium methylhydrophosphide, the products were (diethylaminodimethylsilyl)methylphosphine (V) and bis(diethylaminodimethylsilyl)methylphosphine (VI):

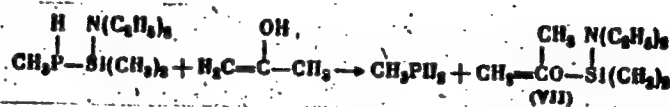


Card 2/3

L 16076-66

ACC NR: AP6005923

Acetone reacts in the enol form with compound (V); the Si-P bond is broken, and a heretofore undescribed compound, diethylaminodimethyl- α -methylvinylloxysilane (VII), and methylphosphine are formed:



SUB CODE: 07/

SUBM DATE: 18Jan65/

ORIG REF: 003/

OTH REF: 000

Card 3/8

L 16077-66 EWT(m)/EWP(j) RM

ACC NR: AP6005924

SOURCE CODE: UR/0079/66/036/001/0075/0078

AUTHOR: Bruker, A. B.; Balashova, L. D.; Soborovskiy, L. Z.

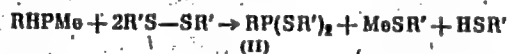
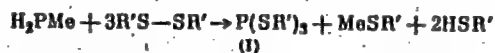
ORG: none

TITLE: Metal organometallic compounds. Part 4. Reaction of dialkyl disulfides with silicon and tin phosphines and with alkali metal hydrophosphides

SOURCE: Zhurnal obshchey khimii, v. 36, no. 1, 1966, 75-78

TOPIC TAGS: organosilicon compound, organic sulfur compound, organosodium compound, organotin compound

ABSTRACT: The general scheme of reactions of alkali metal hydrophosphides and alkylhydrophosphides with dialkyl disulfides can be represented as follows:



Card 1/2

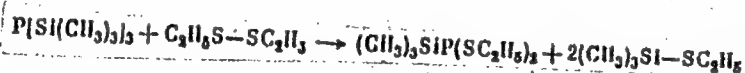
UDC: 547.241 + 547.245

2

L 16077-66

ACC NR: AP6005924

The dialkyl disulfide splits to form the corresponding thiol esters of acids of tri-valent phosphorus. When silicon and tin phosphines were reacted with dialkyl sul-fides, trialkylsilicon and trialkyltin alkyl sulfides and thiol esters of acids of trivalent phosphorus were obtained. Depending upon the ratio of the reactants and temperature of the process, the trialkyltin or trialkylsilicon groups may be par-tially or completely replaced by thiol groups, e. g., the action of methylbis(tri-ethylolotin)phosphine $\text{CH}_3\text{P}[\text{Sn}(\text{C}_2\text{H}_5)_3]_2$ on diethyl disulfide at a molar ratio of 1:2 forms compound (II) and $(\text{C}_2\text{H}_5)_3\text{Sn}-\text{SC}_2\text{H}_5$. The compound $(\text{CH}_3)_3\text{Sn}-\text{SC}_2\text{H}_5$ was obtained by reacting tris(trimethylolotin)phosphine with diethyl disulfide at 50° . Heating of tris(trimethylsilicon)phosphine with diethyl disulfide gave rise to the follow-ing reaction:



SUB CODE: 07/

SUBM DATE: 18Jan65/

ORIG REF: 003/

OTH REF: 000

Card 2/2

L 31276-66 EWT(m)/EWP(j) RM

ACC NR: AP6022800

SOURCE CODE: UR/0079/66/036/002/0302/0306

AUTHOR: Grinshteyn, Ye. I.; Bruker, A. B.; Soborovskiy, L. Z.

ORG: none

TITLE: Synthesis of organophosphorus compounds based on phosphorus hydrides.

III. Reactions of ethyl-, diethyl-, and methylethylphosphines with paraformaldehyde

SOURCE: Zhurnal obshchey khimii, v. 36, no. 2, 1966, 302-306 1

TOPIC TAGS: chemical synthesis, hydride, formaldehyde, oxide formation, hydrogen peroxide, halogenated organic compound, organic salt, coordination chemistry, alkylphosphine, halide

ABSTRACT: Di(hydroxymethyl)ethylphosphine, hydroxymethyldiethylphosphine, and hydroxymethylmethylethylphosphine were produced by reaction of paraformaldehyde with phosphines under pressure. Di(hydroxymethyl)ethylphosphine oxide was produced for the first time by oxidation of di(hydroxymethyl)-ethylphosphine with hydrogen peroxide; hydroxymethyldimethylphosphine oxide was produced analogously. Reaction of the hydroxymethylphosphines with alkyl halides yielded the corresponding quaternary phosphonium salts: tri(hydroxymethyl)methylphosphonium iodide, di(hydroxymethyl)dimethylphosphonium iodide, hydroxymethyltrimethylphosphonium iodide, hydroxymethyltrimethylphosphonium chloride, and hydroxymethylmethylethyl-n-propylphosphonium bromide. The hydroxymethylphosphines in alcohol solution readily formed coordination compounds with mercuric chloride. Tri(hydroxymethyl)phosphine was produced from hydrogen phosphide and paraformaldehyde under slight excess pressure. The basicity of the phosphines was found to increase in the series: $(\text{HOCH}_2)_3\text{P} < (\text{HOCH}_2)_2\text{PCH}_3 < \text{HOCH}_2\text{P}(\text{CH}_3)_2$. The IR spectra were done by S. S. Dubov and V. V. Fedotova. Orig. art. has: 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 22Oct64 / ORIG REF: 005 / OTH REF: 005

Card 1/1

UDC: 547.241: 547.438.1

L 31812-66 EWT(m)/ENP(j) RM

ACC NR: AP6021680

SOURCE CODE: UR/0079/66/036/003/0484/0488

AUTHOR: Brukor, A. B.; Grinshteyn, Ye. I.; Soborovskiy, L. Z.

41
39
B

ORG: none

TITLE: Synthesis of organophosphorus compounds on the basis of phosphorus hydrides. IV. Synthesis of beta-hydroxyethylalkylphosphines and beta-hydroxyethyldialkylphosphines and their derivatives

SOURCE: Zhurnal obshchey khimii, v. 36, no. 3, 1966, 484-488

TOPIC TAGS: organic phosphorus compound, chemical synthesis, nonmetallic organic derivative, alkylation, alkylphosphonium salt, alkylphosphine, alkylphosphonium hydroxide

ABSTRACT: Primary and secondary phosphines, containing the beta-hydroxyethyl radical, were alkylated with alkyl halides, resulting in the production of the corresponding beta-hydroxyethylalkylphosphonium and beta-hydroxyethyldialkylphosphonium halides, decomposition of which with alkali leads to beta-hydroxyethylalkylphosphines and beta-hydroxyethyldialkylphosphines. Beta-hydroxyethylalkylphosphines and beta-hydroxyethyldialkylphosphines were also produced by reaction of ethylene oxide with alkylhydrophosphides and dialkylphosphides of the alkali metals. Previously undescribed compounds, derivatives of beta-hydroxyethyldimethylphosphine: beta-acetoxyethyldimethyl-

Card 1/2

UDC: 546.181.1;547.438.1

L 31805-66 ENT(m)/ENP(j) RM

AP6021631

SOURCE CODE: UR/0079/66/036/003/0488/0492

FOR: Gladsteyn, B. M.; Kulyulin, I. P.; Soborovskiy, L. Z.

58

AND: none

B

TITLE: Cleavage of the heteroatom-oxygen bond by the difluoride of methylphosphinic acid

SOURCE: Zhurnal obshechey khimii, v. 36, no. 3, 1966, 488-492

TOPIC TAGS: chemical bonding, phosphinic acid, esterification, reaction mechanism, fluoride, fluorinated organic compound, substituent, transition complex, chemical synthesis

ABSTRACT: The difluoride of methylphosphinic acid was found to be capable of cleaving the silicon-oxygen, germanium-oxygen, and arsenic-oxygen bonds, to form the corresponding trialkylsilanol, trialkylgermanol, and dimethyl-arsinol esters of methylfluorophosphinic acid and trialkylfluorosilane, trialkylfluorogermane, or trialkylfluoroarsine, respectively. The fluoride of ethanesulfonic acid does not cleave disiloxane bonds. The reactions studied are proposed as a convenient preparative method for synthesizing new silanol, germanol, and arsinol esters of methylfluorophosphinic acid, which are difficult to prepare otherwise. A reaction mechanism is proposed: nucleophilic attack on the phosphorus atom of the difluoride of methylphosphinic acid by the electron pair of the oxygen atom of the reacting molecule, in accord with the general theory of substitution at a tetrahedral phosphorus atom through a transition complex. [JPRS]

SUB CODE: 07 / SUBM DATE: 23Jun65 / ORIG REF: 007 / OTH REF: 018
Card 1/1 UDC: 547.241

Moscow, Zhurnal Obshechey Khimii, Vol 36, No 6, 1966, pp. 1138-1141

TOPIC TAGS: alkylphosphine, fluorinated organic compound, organic synthetic process

Abstract: The reaction of 1, 1, 1-trifluoroacetone with phosphine, methyl- and difluoroisopropylphosphines were obtained and characterized. The reaction of trifluoroacetone with phosphines, similar to that of hexafluoroacetone with phosphorus hydrides, was found to be limited to the replacement of only one hydrogen atom on the phosphorus by the 1-hydroxy-2,2,2-trifluoroisopropyl radical. Some derivatives of the 1-hydroxy-2,2,2-trifluoroisopropylphosphines were produced and characterized. The primary phosphine 1-hydroxy-2,2,2-trifluoroisopropylphosphine was converted to 1-hydroxy-2,2,2-trifluoroisopropylphosphinic acid by boiling with excess hydrogen peroxide in aqueous solution, to the corresponding ester by treatment with acetylchloride, and to 1-hydroxy-2,2,2-trifluoroisopropylid(hydroxymethyl)phosphine by hydroxymethylation with formaldehyde in aqueous solution in the presence of cadmium chloride. The tertiary phosphine 1-hydroxy-2,2,2-trifluoroisopropylid(hydroxymethyl)phosphine was oxidized to the corresponding phosphine oxide. The secondary and tertiary phosphines synthesized exhibited analogous reactions. The IR spectra were analyzed by S. S. Dubov and V. V. Fedotov. [JPRS]

SUB CODE: 07 / SUBM DATE: 08Mar65

Card 1/1

UDC: 547.438.1

0923

1200

L 07450-67 EWT(m)/EWP(j) RM
ACC NR: AP6035833

SOURCE CODE: UR/0413/66/000/020/0037/0037

INVENTOR: Raver, Kh. R.; Zalikina, L. M.; Bruker, A. B.; Soborovskiy, L. Z. 27

ORG: none B

TITLE: Preparative method for phenyl-1,1,2,2-tetrafluoroethylphosphinotributoxytita-
nium. Class 12, No. 187020 15

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 37

TOPIC TAGS: organic phosphorus compound, organotitanium compound, chemical synthesis

ABSTRACT: An Author Certificate has been issued for a method of preparing phenyl-1,1,2,2-tetrafluoroethylphosphinotributoxytitanium. The method involves the reaction of sodium phenyl-1,1,2,2-tetrafluoroethylphosphide with tributoxychlorotitanium at 40C in an organic solvent (e.g., toluene). 7

SUB CODE: 07/ SUBM DATE: 18Oct65/ ATD PRESS: 5104

Card 1/1

UDC: 547.562.113' 412'72'264'132.1.07

L 06508-67 EWT(m)/EMP(j) WW/RM
ACC NR: AP7000484

SOURCE CODE: UR/0079/66/036/006/1133/1138

BRUKER, A. B., GRINSHTEYN, Ye. I., SOBOROVSKIY, L. Z.

"Synthesis of Organophosphorus Compounds Starting with Phosphorus Hydrides.
V. Reaction of Hexafluoroacetone with Phosphorus and Arsenic Hydrides"

Moscow, Zhurnal Obshchey Khimii, Vol 36, No 6, 1966, pp 1133-1138

TOPIC TAGS: alkylphosphine, fluorinated organic compound

Abstract: It was found that phosphine reacts readily with hexafluoroacetone to form 1-hydroxyhexafluoroisopropylphosphine, which is the first representative of the group of primary alpha-hydroxyalkylphosphines, a new group of organophosphorus compounds containing an alpha-hydroxyfluoroalkyl radical on the phosphorus atom, together with hydrogen atoms. The reaction of hexafluoroacetone with dimethylphosphine leads to 1-hydroxyhexafluoroisopropylidimethylphosphine, which has not been described previously. A mechanism is proposed for the indicated processes. Some conversions of the 1-hydroxyhexafluoroisopropylphosphines synthesized were studied, resulting in a number of previously unknown derivatives of these substances. Reaction of 1-hydroxyhexafluoroisopropylphosphine with an aqueous solution of formaldehyde in the presence of catalytic cadmium chloride yields 1-hydroxyhexafluoroisopropylidimethyl(hydroxymethyl)phosphine; the latter is oxidized to 1-hydroxyhexafluoroisopropylidimethyl(hydroxymethyl)phosphine oxide. Treatment of the secondary phosphine 1-acetoxyhexafluoroisopropylmethylphosphine with aqueous formaldehyde in the

Card 1/2

UDC: 547.438.1

0923

1198

L 06508-67

ACC NR: AP7000484

2
presence of catalytic amounts of cadmium chloride yielded 1-hydroxyhexafluoroisopropoxydimethylmethylphosphine. 1-Hydroxyhexafluoroisopropoxydimethylphosphine was readily oxidized by atmospheric oxygen to the corresponding oxide. 1-Acetoxyhexafluoroisopropoxydimethylphosphine was obtained from the action of acetylchloride upon 1-hydroxyhexafluoroisopropoxydimethylphosphine. The reaction of hexafluoroacetone with phosphines was extended to arsines: the reaction of hexafluoroacetone with arsine yielded the previously unknown 1-hydroxyhexafluoroisopropylarsine, the first representative of primary arsines with a hydroxyl group in the alpha-position to the arsenic atom. The IR spectra were analyzed by S. S. Dubov and V. V. Fedotov. [JPRS: 37,023]

SUB CODE: 07 / SUBM DATE: 08Mar 5 / ORIG REF: 013 / OTH REF: 007

Card 2/2 *LS*

ACC NR: AP6029022

SOURCE CODE: UR/0413/66/000/014/0024/0024

INVENTOR: Soborovskiy, L. Z.; Grinshteyn, Ye. I.; Bruker, A. B.

ORG: none

TITLE: Preparation of secondary 1-hydroxyfluoroalkyl alkyl phosphines. Class 12,
No. 183748

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 24

TOPIC TAGS: ~~secondary hydroxyfluoroalkyl alkyl phosphine~~, fluoroalkyl ketone,
primary phosphine, organic phosphorus compound, fluorinated organic compound, ketone

ABSTRACT: In the proposed method, secondary 1-hydroxyfluoroalkylalkylphosphines
are obtained by the reaction of primary phosphines with fluoroalkyl
ketones.
[WA-50; CBE No. 11]

SUB CODE: 07/ SUBM DATE: 14Sep64/

Card 1/1

UDC: 547.419.1.07

ACC NR: AP6033462

SOURCE CODE: UR/0413/66/000/018/0041/0041

INVENTOR: Raveř, Kh. R.; Abramtseva, G. I.; Bruker, A. B.; Soborovskiy, L. Z.

ORG: none

TITLE: Preparation of hydroxymethylphosphine derivatives. Class 12, No. 185916

SOURCE: Izobret prom obraz tov zn, no. 18, 1966, 41

TOPIC TAGS: hydroxymethylphosphine derivative, aryl hydroxymethylphosphine, alkyl hydroxymethylphosphine, *organic phosphorus compound, phosphine*

ABSTRACT: In the proposed method for the preparation of arylalkylhydroxymethylphosphines from substituted phosphines and paraformaldehyde, arylalkylphosphines are used as the substituted phosphines. [W.A. 50]

SUB CODE: 07/ SUBM DATE: 16Jun65

Card 1/1

UDC: 547.419.1.07

SOBORSKI, Z., Dr.

Medical and preventive service at the truck works in Lublin.
Zdrowie pub., Warszawa no.6:445-450 Nov-Dec 54.

(INDUSTRIAL HYGIENE

in Poland, auto works, med. & prev. care)

NEUSCHL., S.; SOBOTA, E.

A simple recorder of movements. El tech cas 15 no.10:633-635
'64.

KUKURA, J.; MIKLETIC, T.; NOSKOVA, T.; NEUSCHL, S.; SOBOTA, L.

Group autography in the study of the pedagogic process. Bratisl.
lek. listy 44 no.9:513-517 15 N '64.

1. Katedra hygieny lek. fakulty Univerzity Komenskeho v Bratislave
(veduci katedry akademik prof. MUDr. V. Mucha, DrSc.) a Katedra
automatizacie a regulacie Elektrotechnickej fakulty Slovenskej
vysokej školy technickej v Bratislave (veduci katedry prof. dr.
Ing. M. Salamon, nositel Radu prace).

L 12942-66

ACC NR: AP6005676

SOURCE CODE: CZ/0079/65/007/002/0187/0188

14
B

AUTHOR: Kukura, J.; Mikletic, T.; Noskova, T.; Sobota, E.

ORG: Department of Hygiene, Medical Faculty, Comenius University, Bratislava

TITLE: Continuous recording of motor activity in pupils during lessons by means of a seat electrograph [This paper was presented at the Third Interdisciplinary Conference on Experimental and Clinical Study of Higher Nervous Functions held in Marianske Lazne from 19 to 23 October 1964.]

SOURCE: Activitas nervosa superior, v. 7, no. 2, 1965, 187-188

TOPIC TAGS: bodily fatigue, man, psychology, behavior pattern

ABSTRACT: First symptoms of fatigue are manifested by an increase in motor activity. From the functional aspect of the cerebral cortex this phenomenon is called protective excitation. The authors describe an arrangement which they designed to register the movements of pupils on school benches. The number of movements increased from the 1st to the 3rd lesson; there was a drop in the 4th lesson. In individual lessons the number of movements decreased up to the 15-20th minute, and then began to increase again. Orig. art. has: 1 figure and 1 table. [JPRS]

SUB CODE: 06, 05 / SUBM DATE: none / ORIG REF: 002

Card 1/1 HW

SOBOTA, FELIKS.

SOBOTA, FELIKS. W kraterach Ceboruco. Mexico, Wydawn. Polonia (1946)
56, (7) p. (In the craters of Ceboruco. illus., bibl.)
Mid Not in DLC

ATLAS POLSKICH STROJOW LUDOWYCH
Poland

So: East European Accession, Vol. 6, No. 5, May 1957

SOBOTA, J.

"Constant distribution of deformations as a method for solving the problem of framing structures with continuous king posts." Technicka Praca, Bratislava, Vol. 6, No. 1, Jan 1954, p. 36.

SO: Eastern European Accessions List, Vol. 3, No. 11, Nov. 1954, L.C.

DVORAK, Jaroslav; PRIKRYL, Ivan; SOBOTA, Josef, Technicka spoluprace M.
Patočkova and L. Pekarova.

Isolation of dermatophyta from soil. Cesk. epidem. mikrob. imun.
8 no.4:259-262 July 59

1. Ustredni mikrobiologicka laborator klinicke nemocnice v Hradci
Kralove.

(SOIL, microbiol.)
(FUNGI)

SOBOTKA, J.; FRIEDBERGER, V.

Clinico-forensic medical review of fatal traffic accidents during 1945-1961 treated at the 2d Surgical Clinic of the Prague Public Health Department and autopsied at the Institute of Forensic Medicine of Charles University Medical School in Prague. Acta chir. orthop. traum. cech. 30 no.3:178-183 Je '63.

1. Ustav pro soudni lekarstvi fakulty vseobecneho lekarstvi KU v Praze, prednosta doc. dr. J. Tesar, CSc. II. chirurgicka klinika fakulty vseobecneho lekarstvi KU v Praze, prednosta prof. dr. J. Lhotka.

(ACCIDENTS, TRAFFIC) (STATISTICS)
(BRAIN INJURY, ACUTE) (BRONCHOPNEUMONIA)
(EMBOLISM, FAT) (THROMBOEMBOLISM)

SOBOTA, K.

CIA-RDP86-00513R001651910011-6

LYSI, J; SOBOTA, K; CYRILLOVA, B

1. Department of Epidemiology, Faculty of Medicine (Katedra epidemiologic lek. fak.)-(for ?); 2. Department of Infectious Diseases, Faculty of Medicine-(for ?). Both faculties Karolsskoho University (University Karolsskoho), Bratislava

Bratislava, Bratislavské lekarske listy, No 2, January 1966, pp 118-121

"Inoculation on a new liquid thioglycolate medium of *F. tularensis* from pathological material of human origin."

CZECHOSLOVAKIA

HRUZEK, J., Doc. MUDr, CSc.; UJHAZYOVA-KRALIKOVA, D.; MATHERNOVA, V.; SOBOTA, K.

1. Dept. of Infectology, Faculty of Medicine, Comenius Univ.
(Katedra infektologie Lek. fak. Univerzity Komenskeho), Bratislava
(for ?; Hruzik - Head); 2. Dept. of Neurology (Katedra neurologie),
Faculty of Medicine, Comenius Univ., Bratislava (for ?)

Bratislava, Bratislavske lekarske listy, No 9, Vol. 2, 9 Nov 1966, pp 545-49

"Sequellae following meningoencephalitides due to tick-borne encephalitis
virus and leptospirae."

ACC NR: AF6090219

SOURCE CODE: CZ/0057/66/000/003/0132/0135

46 B

AUTHOR: Wavrečka, Miroslav (Engineer); Sobota, Rudolf (Engineer)

ORG: Metallurgical Projects, Ostrava (Kutni projekt)

TITLE: Automation of 1700 mm wide sheet hot rolling mill at the East Slovakian Iron Works, and its prospectives

SOURCE: Hutník, no. 3, 1966, 132-135

TOPIC TAGS: rolling mill, automation, hot rolling, sheet metal, metalworking machinery

ABSTRACT: The unit is basically as well automated as most of the present day plants anywhere in the world. It is more advanced in this respect than any other Czechoslovak plant. The greatest drawback at present is that the finishing mill has not been automated at all. There is also no computer control at all, while some of the plants abroad are run by computer control everywhere but in the preheating furnaces. The present installation at the East Slovak Iron Works will be improved in two steps. To begin with, automatic regulation of the thickness of the sheet in the finishing mill will be installed; it will be possible to regulate it within 0.025 - 0.05 mm. In the second step a computer for the regulation of the existing automated equipment will be installed. The main items of the equipment to be operated by the computer are given. Orig. art. has: 2 tables. [JPRS: 36,646]

SUB CODE: 13 / SUBM DATE: none / ORIG REF: 001 / SOV REF: 001

OTH REF: 001

Card 1/1 hs

0477 1062

SOBOTA, S.

Effect of cortisone on chronic rheumatism. Polski tygod. lek. 7 no.
38:1160-1164 22 Sept 1952. (CLML 23:5)

1. Of the First Internal Clinic (Head--Prof. Stefan Kwasniewski, M.D.)
of Poznan Medical Academy.

SOBOTA, S.

Experimental studies on the role of the adrenals in glycogenesis
in mice exposed to lowered temperature. Poznan. Tow przyjaciel nauk
Wydz. lek 9 no. 8:1-51 1952. (CLML 23:3)

1. Of the First Internal Clinic (Head--Prof. Stefan Kwasniewski,
M. D.) of Poznan Medical Academy.

SOBOTA, S.

Experimental studies on the effect of insulin on quantitative state of glycogen in the liver. Przegl. lek., Krakow 9 no.11: 287-90 1953.

(CLML 25:5)

1. Of the First Internal Clinic (Head--Prof. S. Kwasniewski, M.D.) of Poznan Medical Academy.

SOBOTA, Stefan (Poznan, ul. Fredry 10)

Observations on the effect of irgapyrin on various types of rheumatism.
Polski tygod. lek. 9 no.35:1090-1091 30 Aug 54.

1. Z Woj. Centr. Poradni Przeciwrreumatycznej, kierownik naukowy: dr
Wl. Sowinski.

(RHEUMATISM, therapy,
irgapyrin)

(ANALGESICS, therapeutic use,
irgapyrin in rheum.)

SOBOTA, Stefan

Symmetry of manifestations in chronic rheumatism. Polskie
arch.med.wewn. 25 no.4a:839-841 1955.

1. Z Wojewodzkiej Poradni Przeciwrheumatycznej w Poznaniu
Kierownik: dr S. Sobota, Poznan, ul. Wolynska 5.
(ARTHRITIS, RHISUMATOID, pathology,
symmetry of)

SOBOTA, S.

O gościu przewlekłym (About gout), by S. Sobota. Reported in New Books, (Nowe Książki), No. 6, March 15, 1956.

HORST, Antoni: SOBOTA, Stefan; STEFANOWSKI, Stanislaw

Symmetrical gangrene of the skin and subcutaneous tissue of the extremities. Polski tygod. lek. 14 no.31:1446-1450 3 Aug 59.

1. (Z Oddzialu Chorob Zawodowych Wewnetrznych w Szpitalu Miejskim im. Fr. Raszeji w Poznaniu; kierownik: prof. dr med. A. Horst.
(EXTREMITIES, dis.) (GANGRENE, case reports)

SOBOTA, Stefan

Application of adrenal hormones in rheumatology. Polskie
arch.med.wewn. 29 no.5:655-660 '59.

1. Z Oddziału Chorob Zawodowych Wewnętrznych w Szpitalu im.
Raszeji w Poznaniu Kierownik: prof. dr med. A. Horst.
(ADRENAL CORTEX HORMONES ther)
(RHEUMATISM ther)

HORST, Antoni; SOBOTA, Stefan

Electrophoretic examination of exudates and serum of patients with primary chronic rheumatism following the administration of hydrocortisone. Polskie arch. med. wewn. 29 no.6:771-774 1959

1. Z Oddziału Chorob Zawodowych Wewnętrznych w Szpitalu im. Fr. Raszeji w Poznaniu Kierownik: prof. dr med. A. Horst.
(BLOOD PROTEINS, chem.) (ARTHRITIS RHEUMATOID, ther.)
(HYDROCORTISONE, ther.)(EXUDATES AND TRANSUDATES, chem.)

SOBCIA, Stefan; BIALECKI, Mieczyslaw

Riboflavin in the blood of patients with progressive chronic rheumatism. Reumatologia Polska no.3:341-345 '60.

1. Z Zakladu Patologii Ogolnej i Doswiadczalnej AM w Poznaniu Z Oddzialu Chorob Zawodowych Wewnetrznych Szpitala ir. F. Raszeji w Poznaniu Kierownik: prof. dr Antoni Horst
(ARTHRITIS RHEUMATOID blood)
(VITAMIN B2 blood)

SOBŮTKA, A.

Artificial mycorrhization of seedlings. p.67. Ceskoslovenska
akademie zemedelskych ved. SBORNIK. RADA LESNICTVI. Praha,
Vol. 28, no. 1, Feb, 1955

SOURCE: East European Accessions List, (EEAL), Library of Congress,
Vol. 4, No. 12, December 1955

CZECHOSLOVAKIA / Forestry. Forest Cultures.

K

Abs Jour: Ref Zhur-Biol., No 7, 1958, 29582.

Author : Sobotka, A.

Inst : Not given.

Title : The Effect of Diabase Fertilizer on Mycorrhiza Formation in Oak in CEF Forestry in Poland.
(Vliyaniye udobreniya diabazovoy mukoy na ob-razovaniye mikorizy u duba v lesnom khozyaystve Tsep (Pol'sha)).

Orig Pub: Sbor. Ceskosl. akad. zemed. ved. Lesn., 1955, 28, No 6, 841-852.

Abstract: The application of diabase fertilizer into the holes when planting acorns strongly increased the number of roots with mycorrhiza in comparison with unfertilized plots. The height of the oaks which were fertilized reached 23 cm and on unfertilized spots 12 cm.

Card 1/1

63

SOBOTKA, A.

"Mycorrhiza."

VESTNIK. Praha, Czechoslovakia, Vol. 5, No. 7/8, 1958.

Monthly List of East European Accessions (MEAI), LC, Vol. 8, No. 9, September 1959.

Unclassified.

1. 1. 1.

"The 1950s in the United States: A Historical Overview."

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Vol. 6. no. 5, 1959.

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Feb. 1960. Uncl.

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L 21448-66 EJP(t) JD

ACC NR: AP6011963

SOURCE CODE: CZ/0057/65/000/003/0107/0110

AUTHOR: Sobotka, Jaromir

ORG: College of Mining, Ostrava (Vysoka skola banska)

TITLE: Physical and chemical changes in primary and intermediate slag in blast furnaces

SOURCE: Hutnik, no. 3, 1965, 107-110

TOPIC TAGS: blast furnace, slag, iron oxide, aluminum oxide, magnesium oxide, titanium oxide, barium oxide, silicon dioxide

ABSTRACT: Formation of the slag and its influence upon the operation of the blast furnace are described. Primary slag has high iron oxide content, final slag a very low one; in the intermediate slag the content of iron oxide changes together with the content of the other components. High basicity is characteristic for the intermediate slag; changes in composition of the slag, and the resulting changes in the melting temperatures, viscosities, and other physical properties of the slag are described. The influence of changes in the content of the main slag-forming oxides : SiO_2 , Al_2O_3 , FeO , MnO , MgO , TiO_2 , and BaO are discussed. Possibilities of influencing the operation of the furnace by changing the slag composition are evaluated. Orig. art. has: 5 figures and 1 table. [JPRS]

SUB CODE: 11, 07, 13 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 001

SOV REF: 001

Card 1/1

SOBOTKA, J.

✓ Aurostibite, AuSb₂, in the ore veins of Krasna Hora and
Mussov: first macroscopical occurrence. Jiri Sobotka
 (Charles Univ., Prague). *Rozpravy esk. Akad. v. 64*
 No. 7, 45-60 (1954) (English summary); cf. Graham and
 Kalman, *C.A.* 48, 5027a. — Chem. and spectrographic
 analyses and optical and x-ray powder data are given. For
 synthetic AuSb₂, $a_0 = 6.656 \pm 0.002$ Å, for aurostibite,
 $a_0 = 6.660 \pm 0.002$ Å. Assoc. minerals include Sb,
 stibnite, pyrite, arsenopyrite, chalcopyrite, quartz, and
 calcite. Where Au is present, it is older than aurostibite
 (difference from the Canadian occurrences).

Michael Fleischer

67

Sobotka, Jiri

CZECHOSLOVAKIA/Cosmichemistry - Geochemistry. Hydrochemistry. D.

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 30366

Author : Sobotka Jiri

Inst :

Title : Chalcostibite CuSbS_2 -- A New Mineral in Czechoslovakia

Orig Pub : Casop. mineral. a geol., 1956, 1, No 3, 269

Abst : Brief communication concerning the discovery in the gold-bearing quartz and antimonite veins, in the area of Krasna Gora (south of the town of Prague), of chalcostibite (wolfsbergite). Associated minerals: in addition to quartz and antimonite, -- arsenopyrite, pyrite, gold and carbonates; modification products of chalcostibite -- malachite and antimony ochers.

Card 1/1

CZECHOSLOVAKIA / Cosmochemistry. Geochemistry. Hydro- D
chemistry.

Abs Jour: Ref Zhur-Khimiya, No 1, 1959, 792.

Abstract: tion of that ore zone. A close connection between Au with sulfides and sulfo-salts of Cu and not of Fe is established. The general chemistry and geological development of Krasnohorskomilesovske Oblast are analogous to that of the Canadian deposit of Giant Yellow Khive. -- B. Kudryashova.

Card 2/2

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SOMOGRA, J. I.

Second occurrence of uranium in Czechoslovakia. Maszin
geol 9 no.41473 1961.

1. Geologicky pruzkum National Enterprise, Stribro. Submitted
April 10, 1961.

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Prague, Časopis pro mineralogii a geologii, No 4, 1964, p 477

"The Second Occurrence of Chapmanite in Czechoslovakia."